

SUPPLEMENTAL ALTERNATIVES ANALYSIS (AA)

FRESNO TO BAKERSFIELD SECTION

**California High-
Speed Rail Authority**

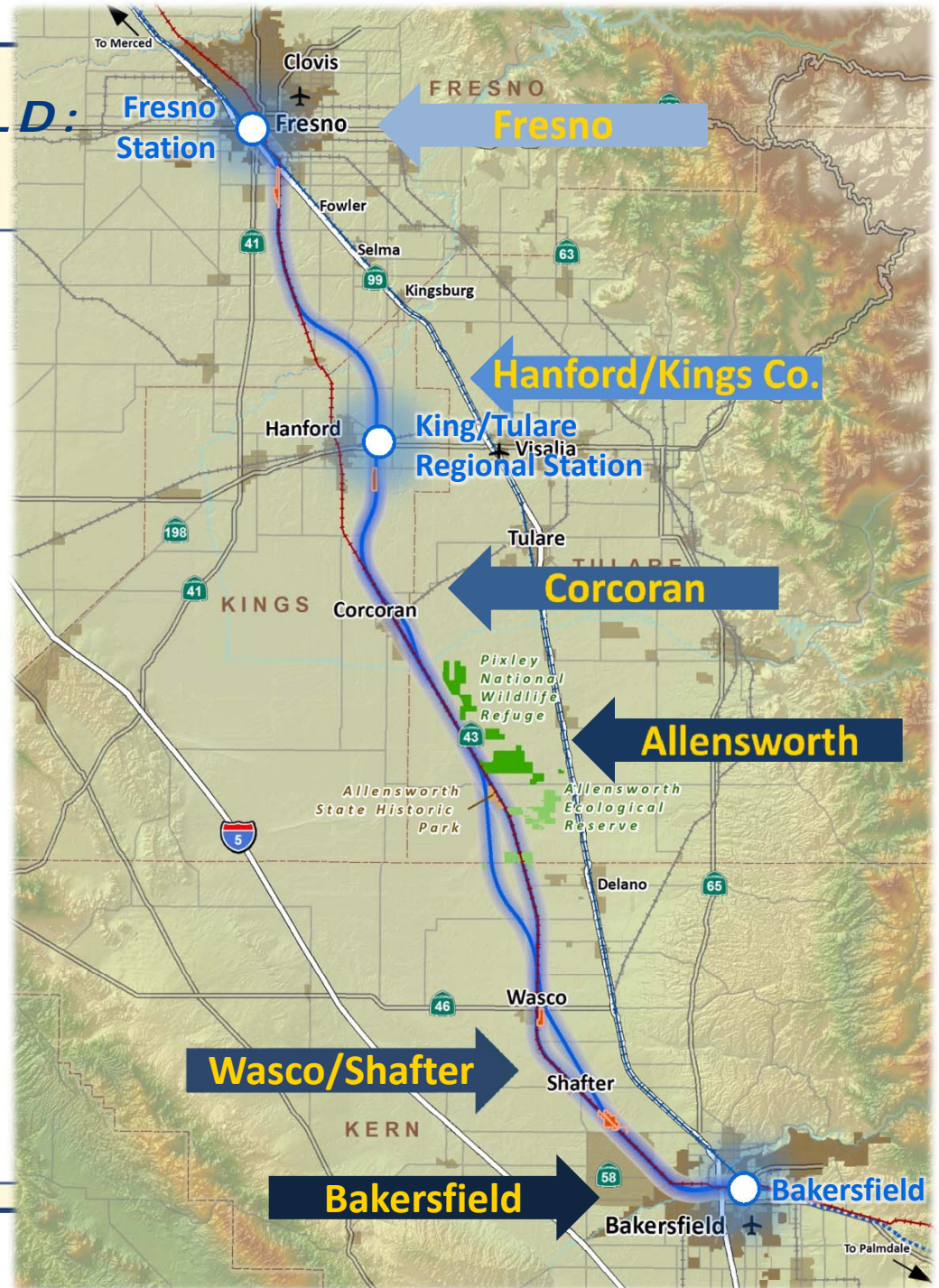
Board Briefing

May 5, 2011



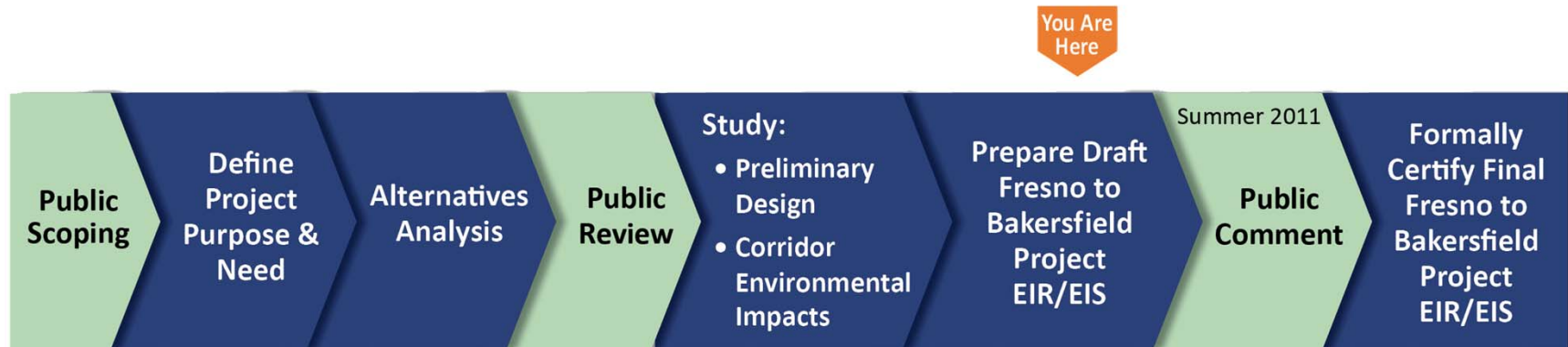
FRESNO TO BAKERSFIELD: OVERVIEW

- 113 Miles
- Six Subsections
 - Fresno
 - Hanford/Kings County
 - Corcoran
 - Allensworth
 - Wasco-Shafter
 - Bakersfield
- Three Stations
 - Downtown Fresno
 - Kings/Tulare Regional
 - Downtown Bakersfield



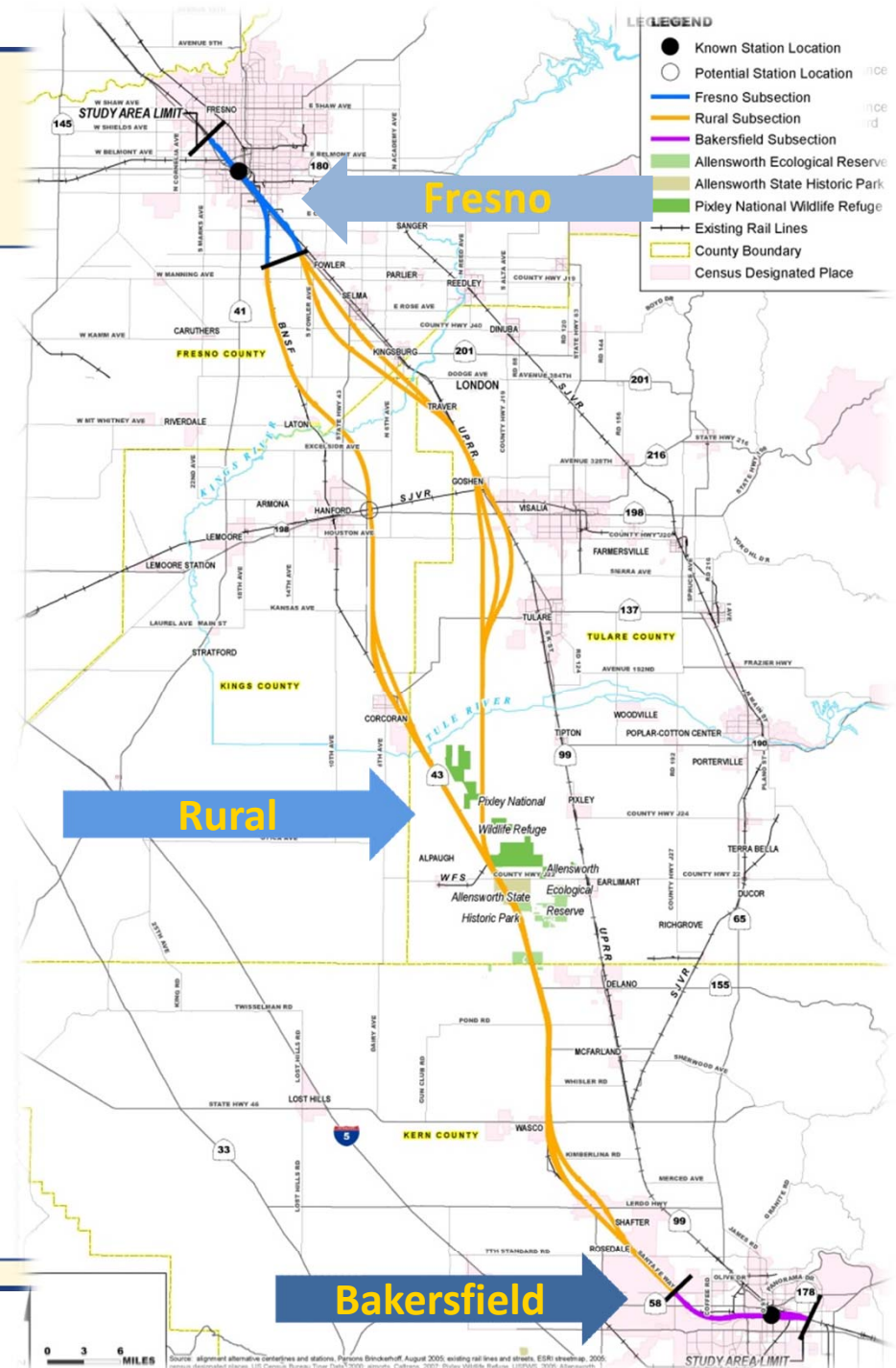
ALTERNATIVES DEVELOPMENT AND ANALYSIS: 2005-11

- Program EIR/EIS (2005)
- VTH Station Study (2007)
- Scoping (2009)
- Preliminary Alternatives Analysis (June 2010)
- Supplemental Alternatives Analysis (September 2010)
- Preliminary Engineering (2010-11)



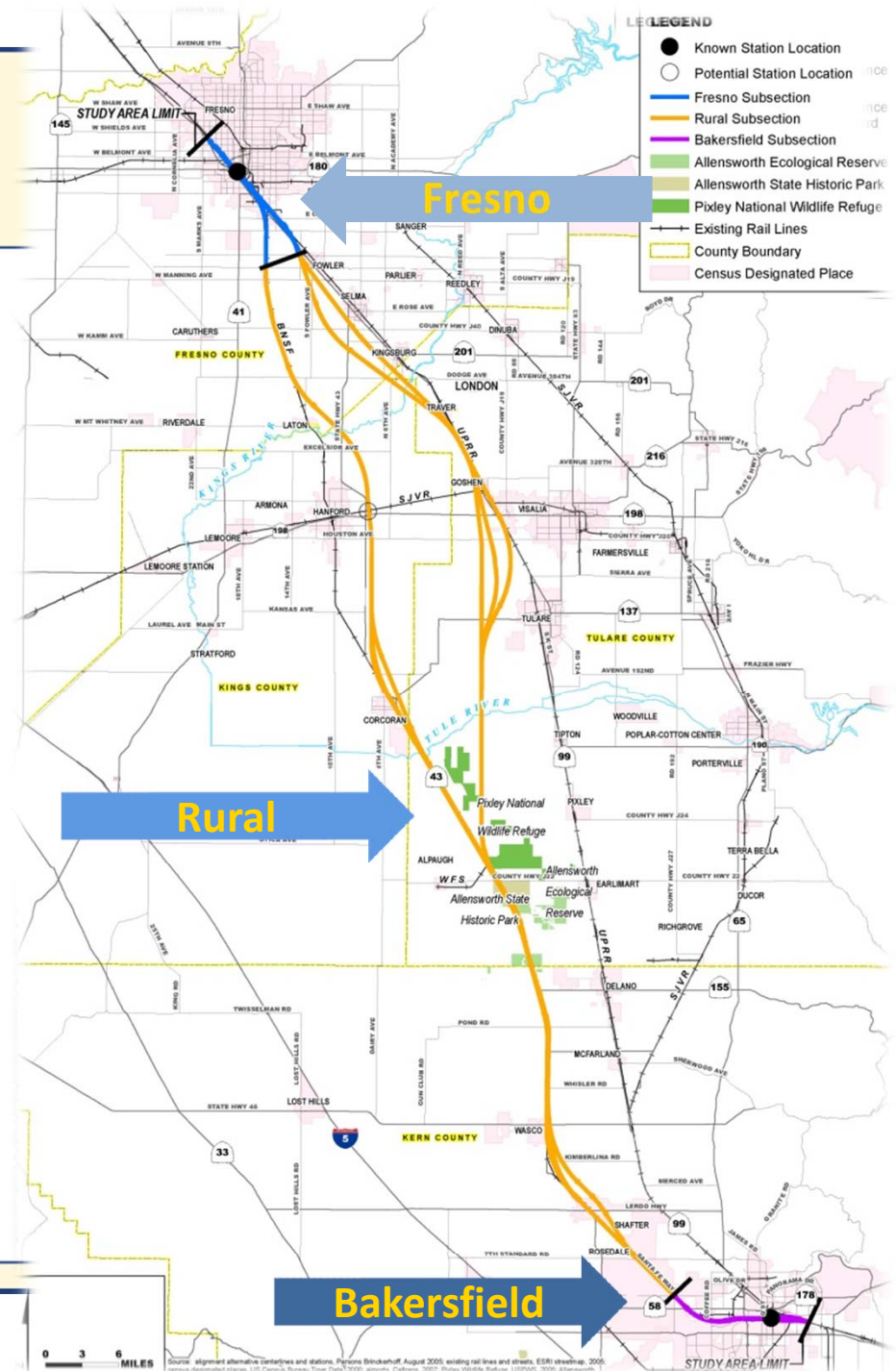
PRELIMINARY AA: OVERVIEW OF ALTERNATIVES STUDIED

- Three Subsections:
 - Fresno
 - Rural (Hanford/Kings County, Corcoran, Allensworth, Wasco-Shafter)
 - Bakersfield
- Alternatives defined from Program EIR/EIS, VTH Study, and Scoping



PRELIMINARY AA: OVERVIEW OF ALTERNATIVES STUDIED

- BNSF and UPRR Corridors
- Largely at-grade with elevated sections in cities and towns
- Fresno & Bakersfield stations in downtown areas
- Alternative station locations near Visalia, Tulare and Hanford
- Local variations to avoid sensitive resources



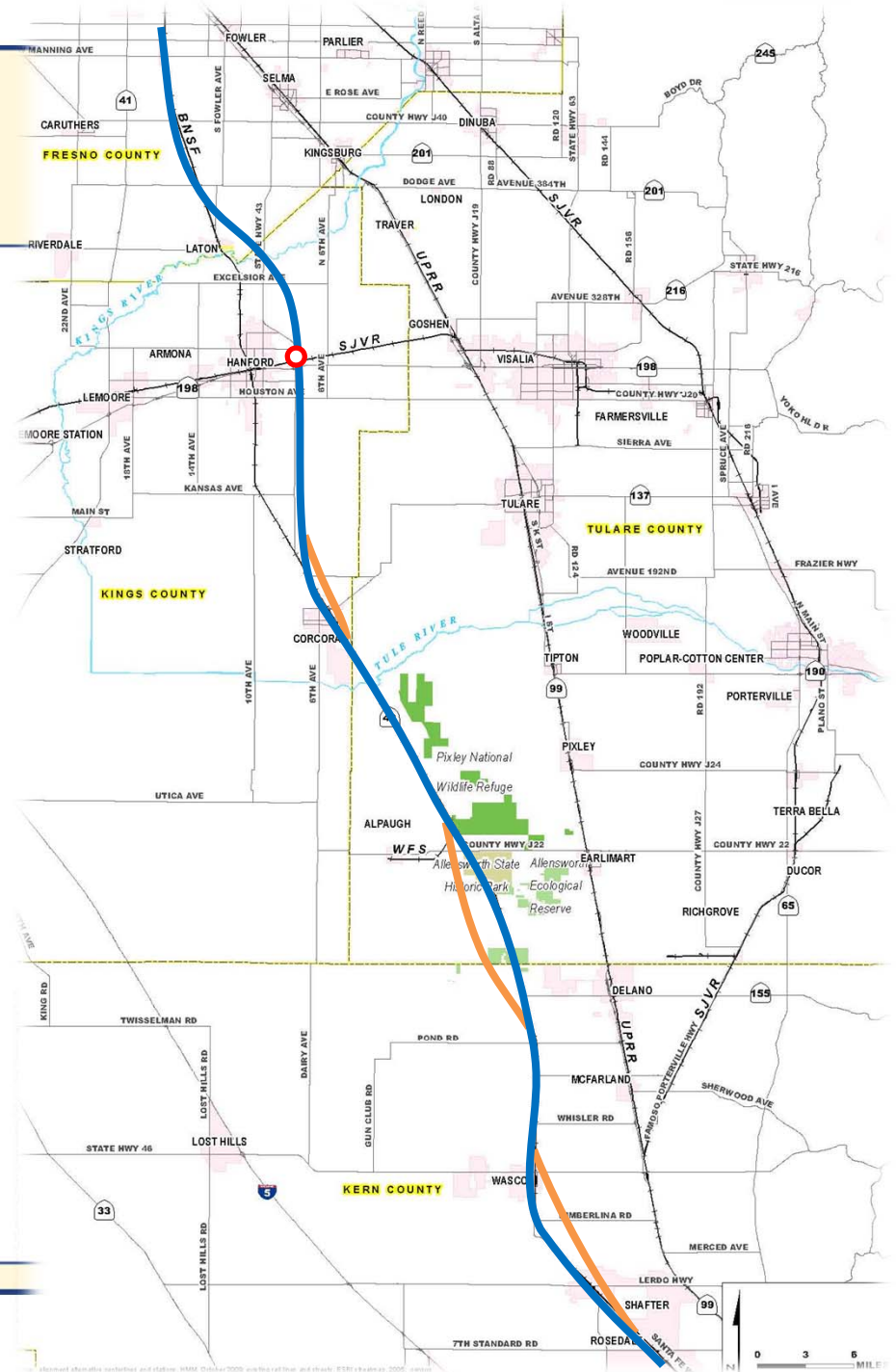
PRELIMINARY AA ALTERNATIVES SELECTED: FRESNO SUBSECTION

- Three alignment alternatives:
 - UPRR West
 - UPRR East
 - UPRR West/East Crossover
- All elevated adjacent to UPRR
- Alternative station sites at:
 - Kern St (UPRR West and Crossover)
 - Mariposa St (UPRR East)
- All follow BNSF to Bakersfield



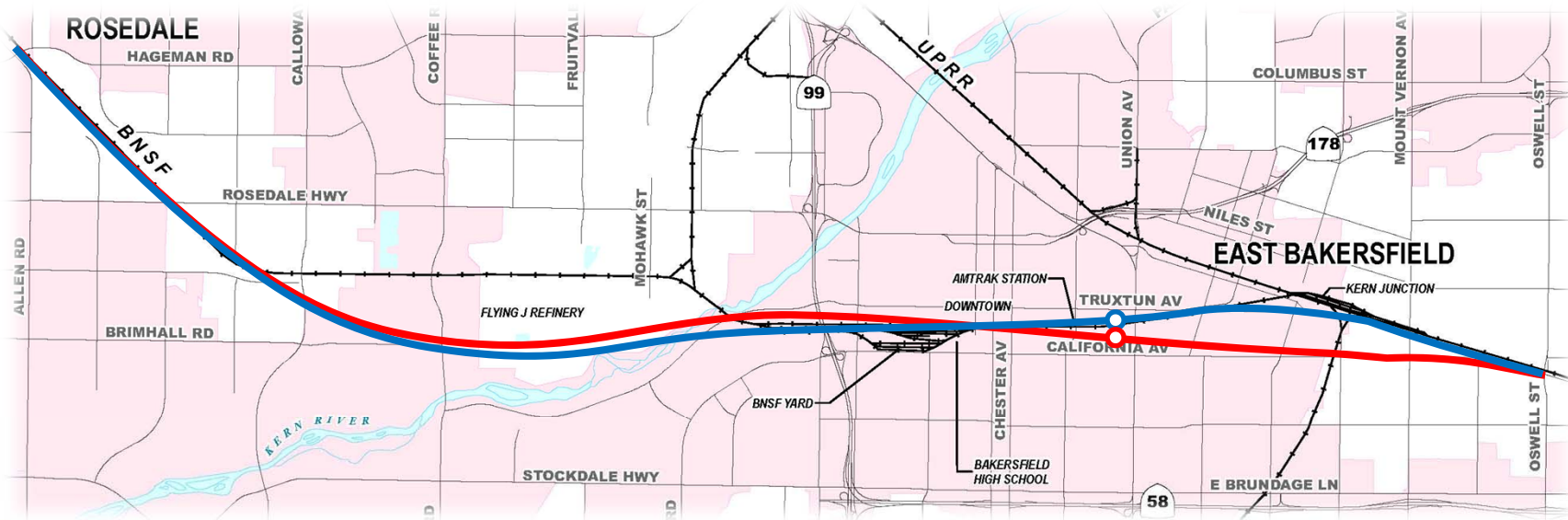
PRELIMINARY AA ALTERNATIVES SELECTED: RURAL SUBSECTION

- “BNSF” Alignment Alternative
 - Largely at-grade and near BNSF
 - Bypass east side of Hanford
 - Elevated through Corcoran, Wasco, and Shafter
 - Station located east of Hanford
- Three Local Options
 - Corcoran Bypass
 - Allensworth Bypass
 - Wasco-Shafter Bypass
- Directed by Board to study alignments through Hanford



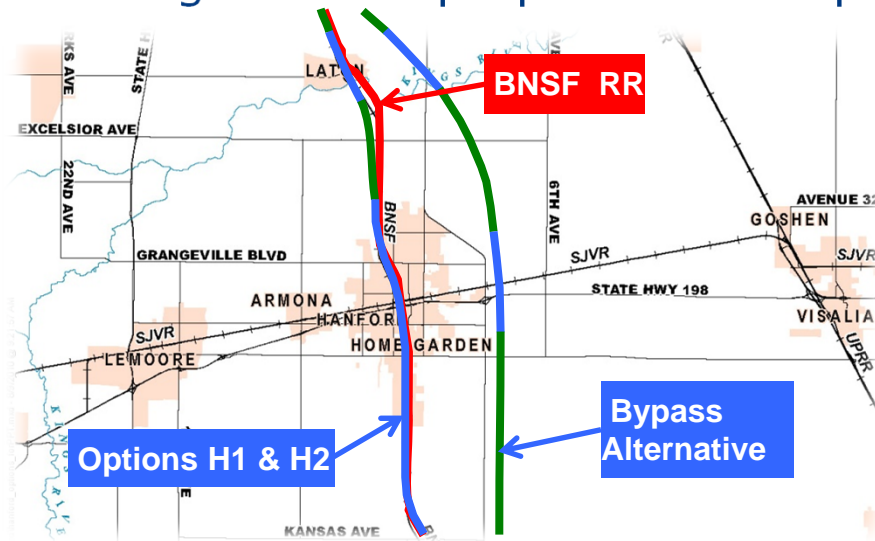
PRELIMINARY AA ALTERNATIVES SELECTED: BAKERSFIELD SUBSECTION

- Two alignment alternatives:
 - Through BNSF Yard w/ HST station near Amtrak Station (Blue)
 - North of BNSF w/ HST station 500' south of Amtrak Station (Red)
- Both alternatives elevated entire length of Bakersfield



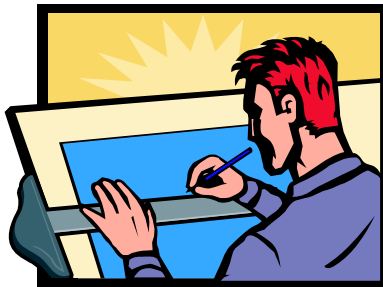
SUPPLEMENTAL AA REPORT SEPTEMBER 2010

- Two Through-Hanford Alignment Alternatives:
 - Downtown Station Option
 - Station south of Downtown
- New alternatives not carried forward due to extensive displacements and other urban impacts
- Directed by Board to further refine existing alternatives to minimize impacts on agricultural properties and operations



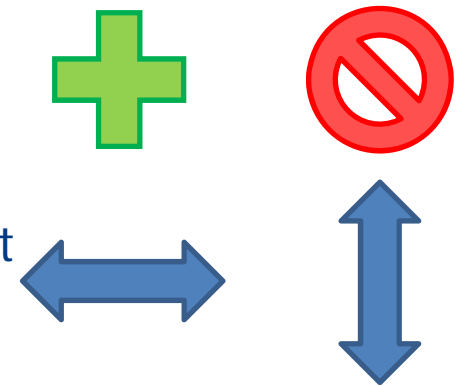
PRELIMINARY ENGINEERING SEPT 2010 - APRIL 2011

- Continued Alignment Development
- Environmental Impact Analysis
- Public and Stakeholder Input
- BNSF and UPRR Consultations
- Resource Agency Input
- Design Review



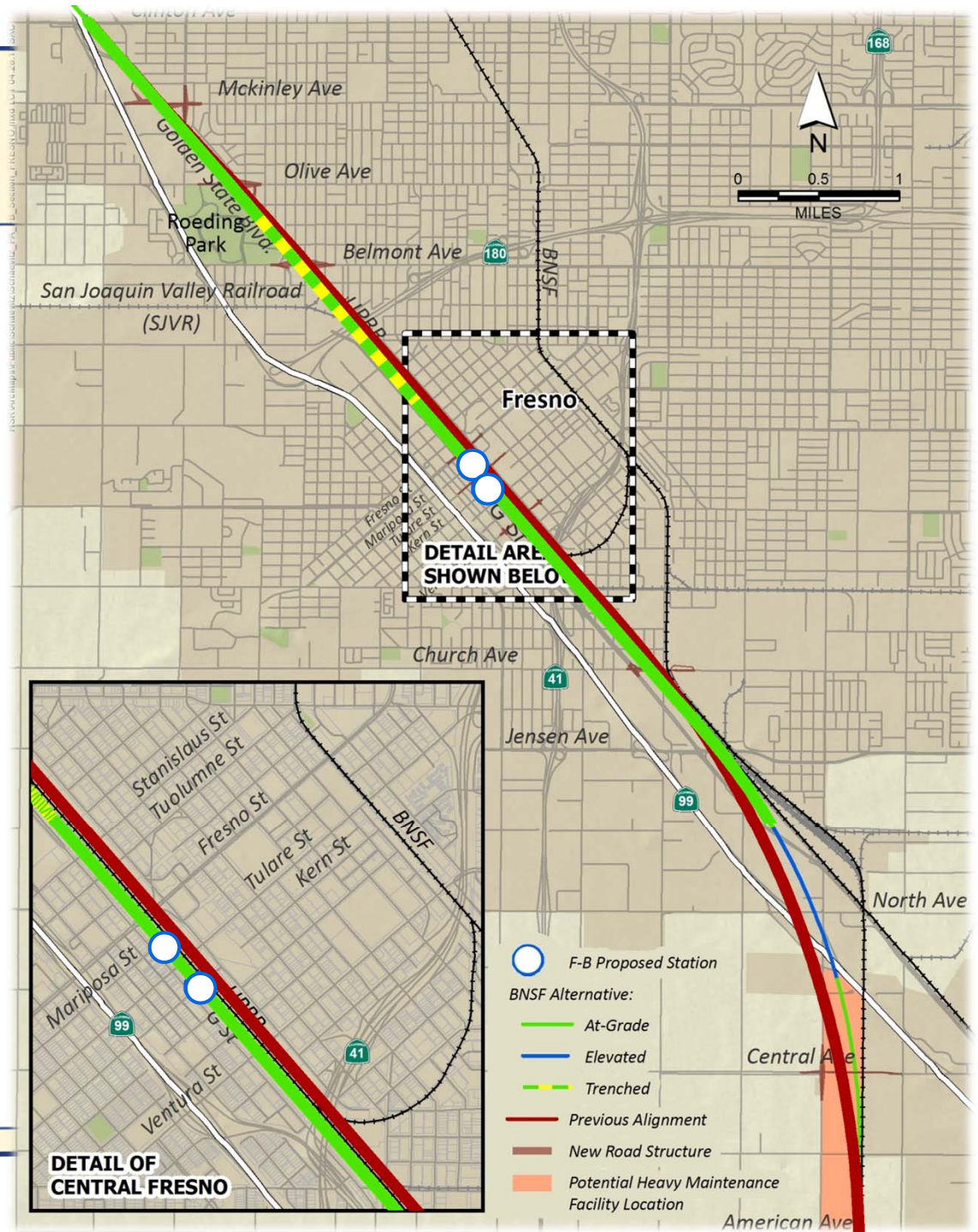
PRELIMINARY ENGINEERING: RESULTS

- Modifications/Refinements to Existing Alternatives:
 - Added New Project Features
 - Removed Project Features Previously Considered
 - Shifted Alignments Horizontally
 - Changed Alignment Profiles from Elevated to At-Grade
- Results:
 - Reduced Impacts
 - Increased Benefits
 - Reduced Costs
 - Less Impacting, More Cost-Effective Project



RECOMMENDATIONS FRESNO SUBSECTION

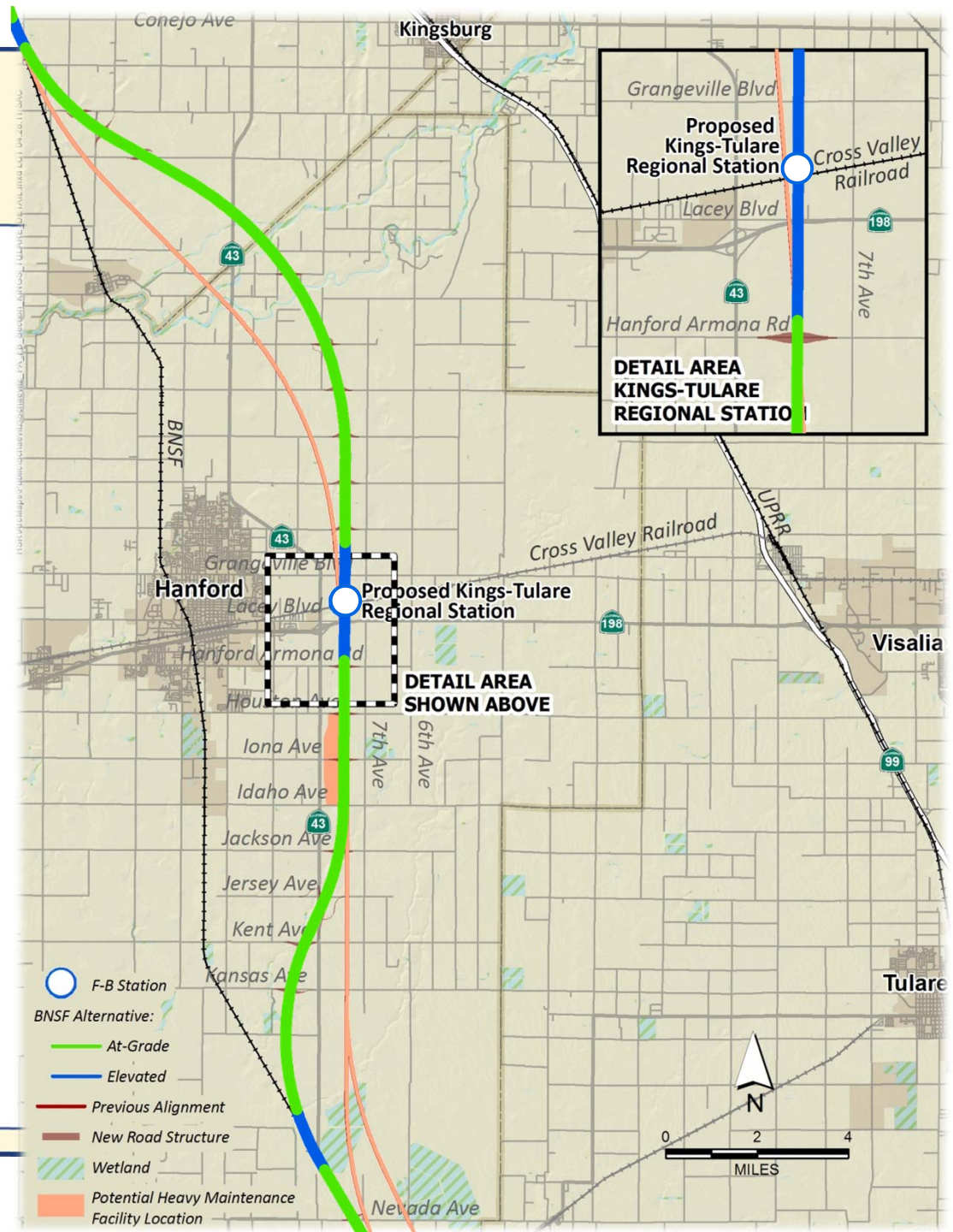
- Consultations
 - City of Fresno
- Modifications
 - Change UPRR West Alternative to at-grade
 - Add alternative station site at Mariposa St
 - Remove UPRR East and Crossover Alternatives
- Benefits
 - Reduced urban impacts (noise, visual, traffic)
 - Improved freight RR safety
 - Better urban integration
 - Reduced life cycle costs



RECOMMENDATIONS

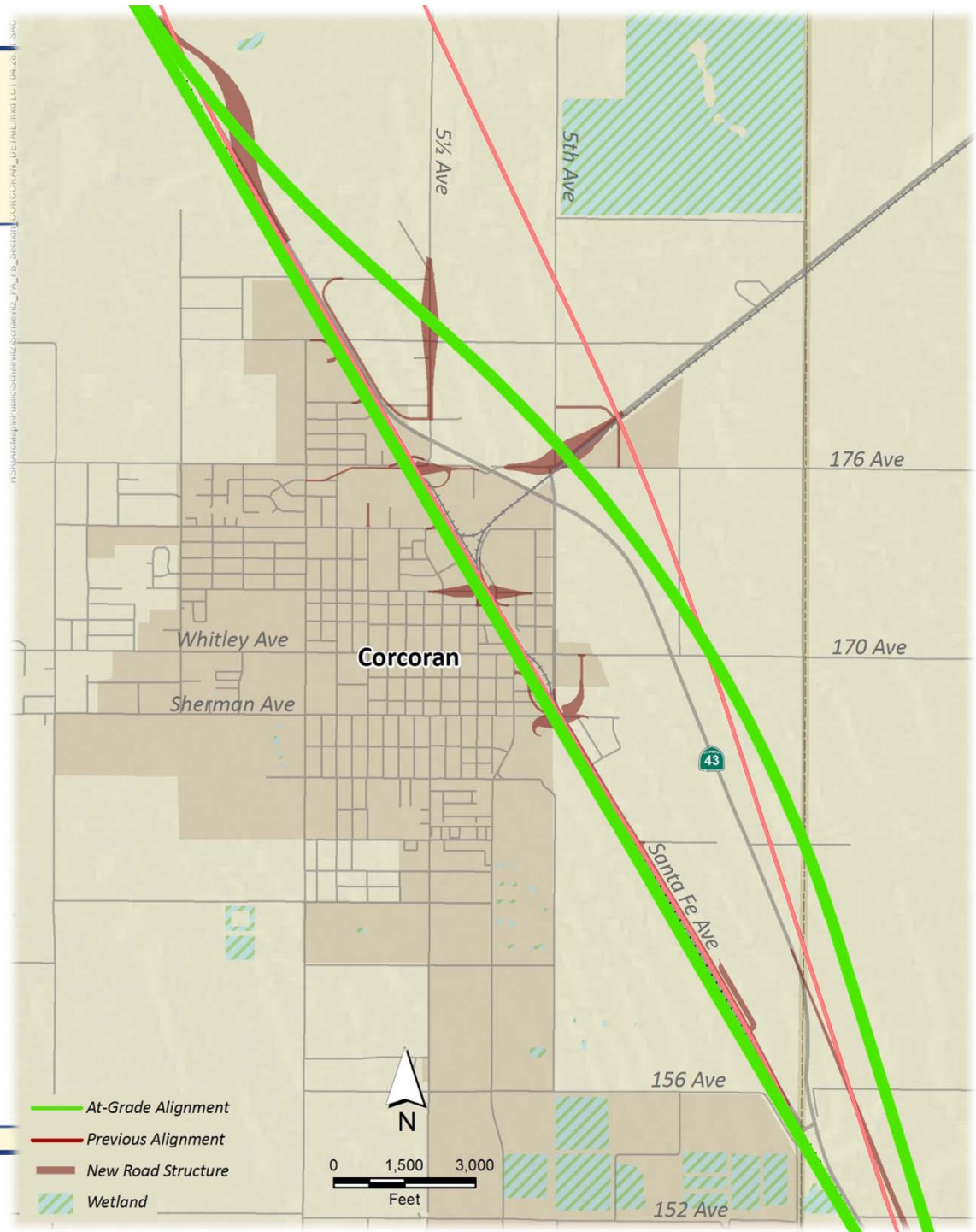
HANFORD/KINGS SUBSECTION

- Consultations
 - Local Agencies
 - Agricultural Interests
 - Resource Agencies
- Modifications
 - Shift alignment in two places
- Benefits
 - Reduced impact on agriculture lands and facilities (follows existing corridor)
 - Avoidance of sensitive wetlands



RECOMMENDATIONS **CORCORAN SUBSECTION**

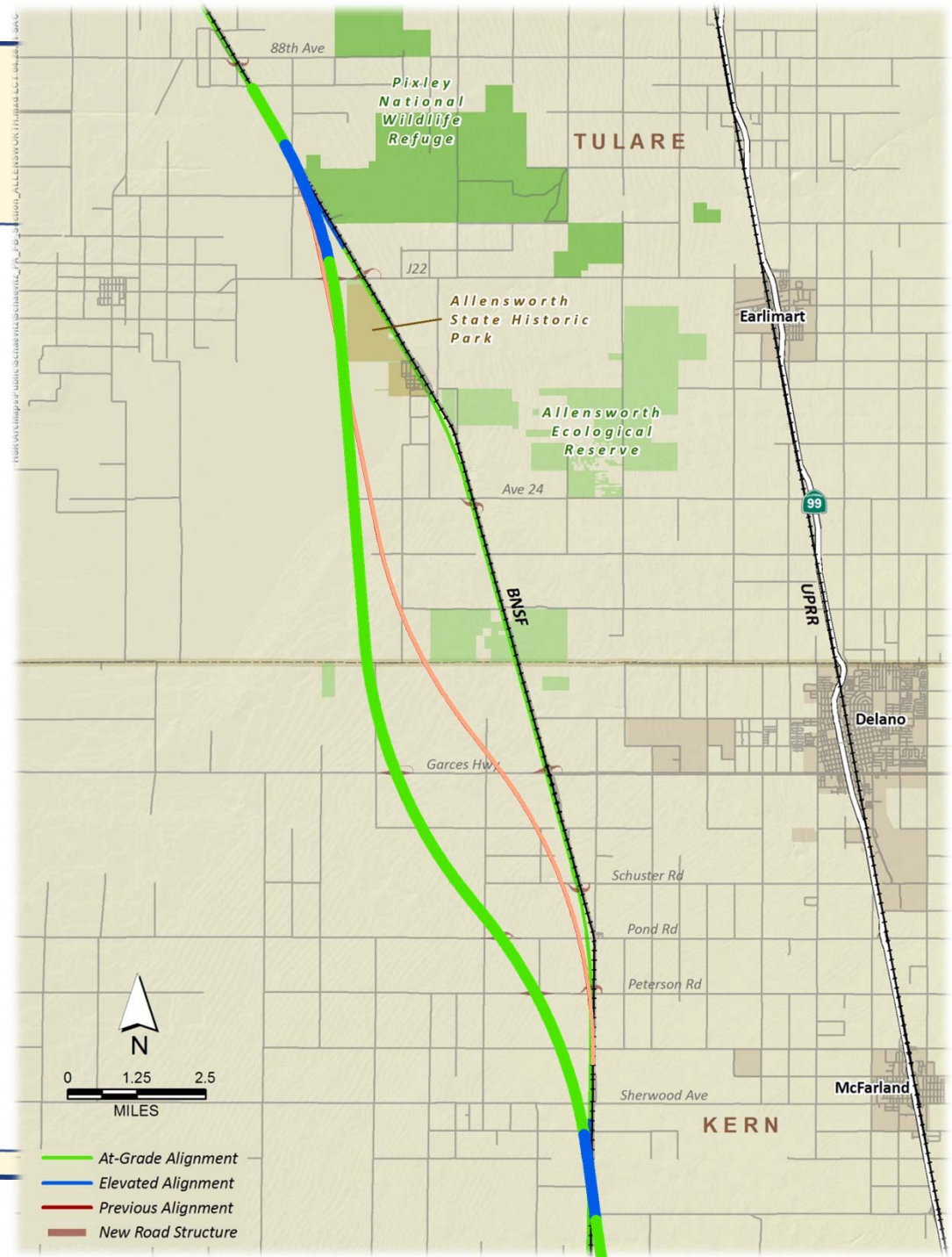
- Consultations
 - City of Corcoran
 - Local Stakeholders
- Modifications
 - Add alternative west of BNSF (at-grade)
 - Shift Corcoran Bypass Alternative closer to Corcoran
- Benefits
 - Reduced urban impacts (noise, visual, traffic)
 - Improved freight RR safety
 - Reduced life cycle costs



RECOMMENDATIONS

ALLENSWORTH SUBSECTION

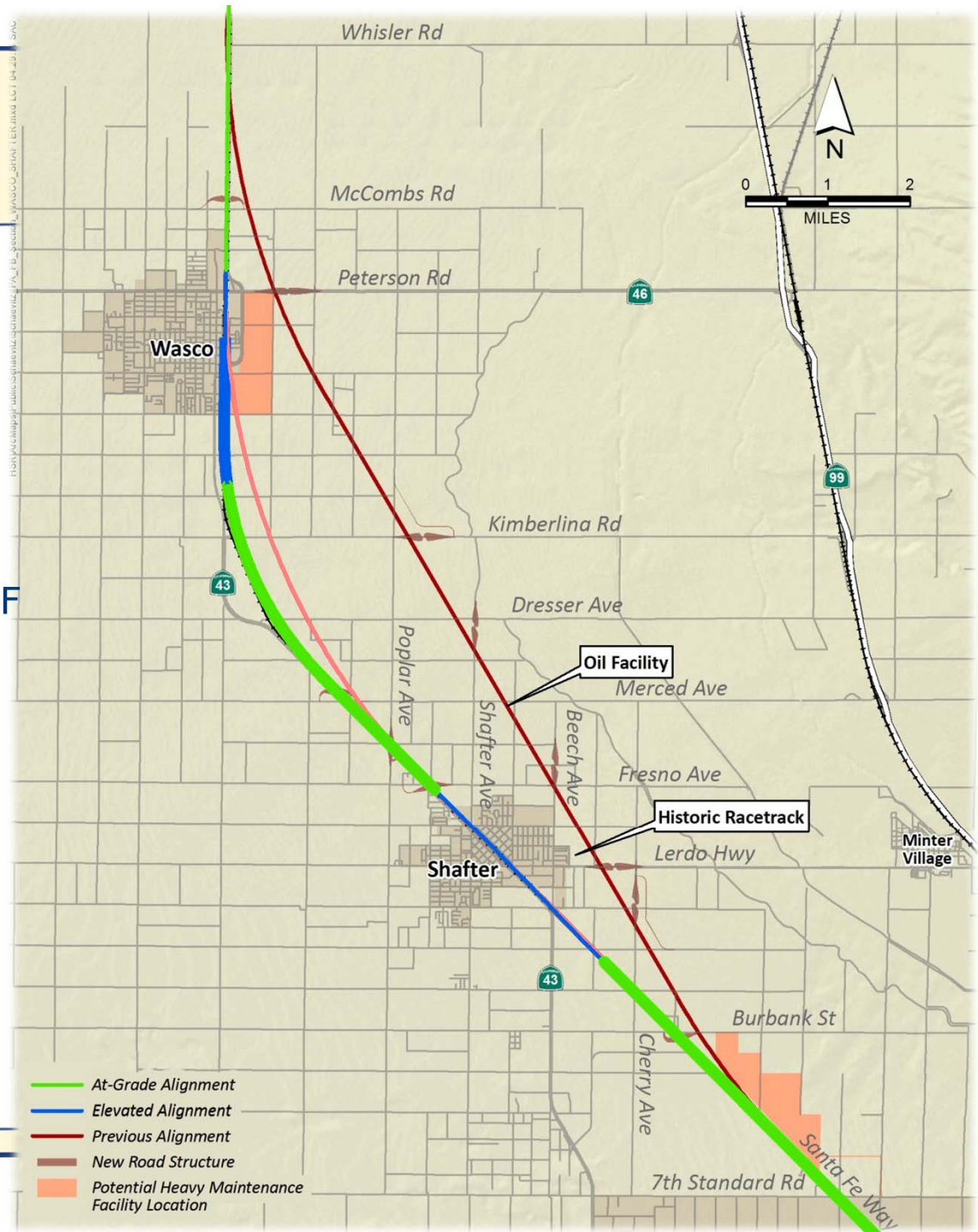
- Consultations
 - Resource Agencies
 - Agricultural Interests
 - Allensworth SHP
- Modifications
 - Shift Allensworth Bypass to the west
- Benefits
 - Avoidance of sensitive wetlands
 - Reduced agricultural impacts



RECOMMENDATIONS

WASCO-SHAFTER SUBSECTION (1 OF 2)

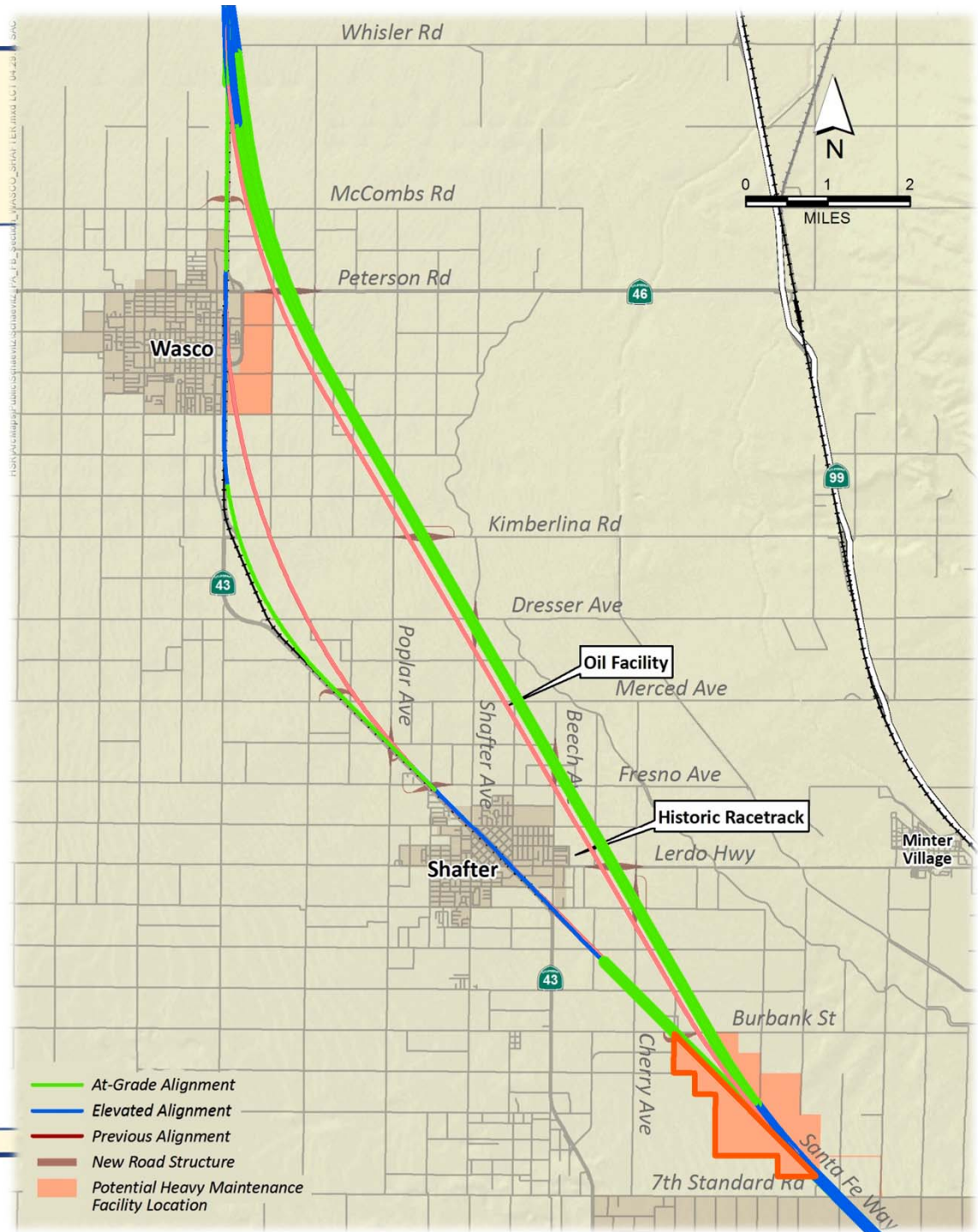
- Consultations
 - City of Wasco
 - City of Shafter
 - Local Stakeholders
- Modifications
 - Shift through-town alignment closer to BNSF near Kimberlina Road
 - North of Shafter: Change elevated to at-grade
 - South of Shafter: Change elevated to at-grade and shift from east to west of BNSF



RECOMMENDATIONS

WASCO-SHAFTER SUBSECTION (2 OF 2)

- Modifications
 - Shift W-S Bypass slightly to east
 - Move Shafter HMF site from east to west of BNSF
- Benefits
 - Avoids conflicts with:
 - Agricultural facilities
 - Historic property
 - International Trade & Transportation Center
 - Shafter Cemetery
 - BNSF Operations
 - Oil & gas facilities
 - Reduced life cycle costs



RECOMMENDATIONS

BAKERSFIELD SUBSECTION

- Consultations
 - City of Bakersfield
 - Kern County
 - Kern COG
 - Kern High School District



SUMMARY OF STAFF RECOMMENDATIONS (1 OF 2)

- **Fresno Subsection**
 1. Change UPRR West elevated profile to at-grade
 2. Add second station location at Mariposa Street (in addition to Kern Street location)
 3. Remove UPRR East and Crossover alternatives from further consideration
- **Hanford/Kings County Subsection**
 1. Shift existing alignment between Conejo and Corcoran in two locations.
- **Corcoran Subsection**
 1. Add new at-grade alternative on west side of BNSF
 2. Shift Corcoran Bypass alignment closer to Corcoran



SUMMARY OF STAFF RECOMMENDATIONS (2 OF 2)

- Allensworth Subsection
 1. Shift Allensworth Bypass alignment to the west
- Wasco-Shafter Subsection
 1. Shift alignment closer to BNSF near Kimberlina
 2. North of Shafter: Change profile to at-grade
 3. South of Shafter: Change profile to at-grade and shift alignment from east to west of BNSF
 4. Shift W-S Bypass to east
 5. Add new Shafter HMF site west of BNSF
- Bakersfield Subsection
 1. Change profile to at-grade from Hageman Road to Palm Avenue
- Use of BNSF Right-of-Way
 1. Clarify that HST will be adjacent to the BNSF where possible but will not share BNSF right-of-way



NEXT STEPS

- Board Action to Accept Staff Recommendations

